

REPORT ON OIL ENGINE MACHINERY.

No. 17035

Date of writing Report 18.4.31 When handed in at Local Office 1st May 1931 Port of West Hartlepool
No. in Survey held at Hartlepool Date, First Survey 8th Sept/30 Last Survey 28th April 1931
Reg. Book. Supp 89708 on the Single/Twin/Triple/Quadruple Screw vessel M.V. "BRITISH STRENGTH" Tons Gross 7140 Net 4170

Built at Newcastle By whom built Palmers S B & Co Ltd Yard No. 1005 When built 1931
Engines made at Hartlepool By whom made Richardsons Westgarth & Co Ltd Engine No. 2676 When made 1931
Donkey Boilers made at ditto By whom made ditto Boiler No. 2676 When made 1931
Brake Horse Power 2850 Owners British Tanker Co Ltd Port belonging to London
Nom. Horse Power as per Rule 690687 Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes
Trade for which vessel is intended Ocean going 23578 91576

OIL ENGINES, &c.—Type of Engines Dorsford Opposed piston 2 or 4 stroke cycle 2 Single or double acting single
Maximum pressure in cylinders 570 lbs Diameter of cylinders 600 mm Length of stroke 2320 mm No. of cylinders 4 No. of cranks 4 3 throw
Span of bearings, adjacent to the Crank, measured from inner edge to inner edge 1050 mm Is there a bearing between each crank yes
Revolutions per minute 84 Flywheel dia. none Weight ✓ Means of ignition Compression Kind of fuel used Heavy oil
Crank Shaft, dia. of journals as per Rule 430 mm Crank pin dia. 475 mm Crank Webs Mid. length breadth 650 mm Thickness parallel to axis 260 mm
Flywheel Shaft, diameter as fitted 410 mm Intermediate Shafts, diameter as per Rule 400 mm Thrust Shaft, diameter at collars as per Rule 430 mm
Tube Shaft, diameter as fitted ✓ Screw Shaft, diameter as fitted 439 mm Is the shaft fitted with a continuous liner yes
Bronze Liners, thickness in way of bushes as per Rule 20 mm Thickness between bushes as per rule 15 mm Is the after end of the liner made watertight in the propeller boss yes

If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓
If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no
Propeller, dia. 17'-6" Pitch 15'-6" No. of blades 4 Material Bronze whether Movable no Total Developed Surface 96 sq. feet
Method of reversing Engines Hand lever a governor or other arrangement fitted to prevent racing of the engine when declutched ✓ Means of lubrication forced
Thickness of cylinder liners 25 mm Are the cylinders fitted with safety valves yes Are the exhaust pipes and silencers water cooled or lagged with non-conducting material yes

Are the exhaust pipes and silencers water cooled or lagged with non-conducting material yes If the exhaust is led overboard near the waterline, what means are arranged to prevent water from being syphoned back to the engine ✓
Cooling Water Pumps, No. 1 250 ton electric Is the sea suction provided with an efficient strainer which can be cleared within the vessel yes
Bilge Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
Pumps connected to the Main Bilge Line No. and Size 1 100 ton How driven electric Steam
Ballast Pumps, No. and size 1 10" x 12" x 12" duplex Lubricating Oil Pumps, including Spare Pump, No. and size 1 27 ton 1 7" x 8" x 18"

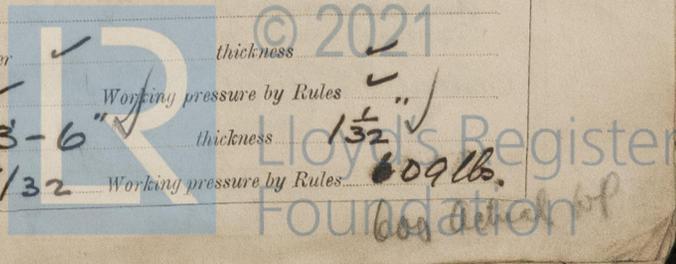
Are two independent means arranged for circulating water through the Oil Cooler yes Suctions, connected to both Main Bilge Pumps and Auxiliary Bilge Pumps, No. and size:—In Machinery Spaces 3 of 3 1/2"
In Holds, &c. ✓ See approved plan
Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 5" Bilge pump 1 8" Ballast pump.
Are all the Bilge Suction pipes in Holds and Tunnel Well fitted with strum-boxes ✓ Are the Bilge Suctions in the Machinery Spaces led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges yes

Are all Sea Connections fitted direct on the skin of the ship yes Are they fitted with Valves or Cocks yes
Are they fixed sufficiently high on the ship's side to be seen without lifting the platform plates yes Are the Overboard Discharges above or below the deep water line above
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel yes Are the Blow Off Cocks fitted with a spigot and brass covering plate yes
What pipes pass through the bunkers ✓ How are they protected ✓
What pipes pass through the deep tanks ✓ Have they been tested as per Rule ✓

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes
Is the arrangement of valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another yes Is the Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓
If a wood vessel, what means are provided to prevent leakage of either fuel oil or of lubricating oil from saturating the woodwork ✓
Main Air Compressors, No. 2 No. of stages 3 Diameters 11 1/2" 9 1/4" 2 3/4" Stroke 7" Driven by Steam ✓
Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
Small Auxiliary Air Compressors, No. ✓ No. of stages ✓ Diameters ✓ Stroke ✓ Driven by ✓
Scavenging Air Pumps, No. one Diameter 1960 mm Stroke 610 mm Driven by main engine

Auxiliary Engines crank shafts, diameter as per Rule as fitted Manchester Certificate.
AIR RECEIVERS:—Is each receiver, which can be isolated, fitted with a safety valve as per Rule yes, on charging pipe
Can the internal surfaces of the receivers be examined yes What means are provided for cleaning their inner surfaces manhole
Is there a drain arrangement fitted at the lowest part of each receiver yes
High Pressure Air Receivers, No. ✓ Cubic capacity of each ✓ Internal diameter ✓ thickness ✓
Seamless, lap welded or riveted longitudinal joint ✓ Material ✓ Range of tensile strength ✓ Working pressure by Rules ✓
Starting Air Receivers, No. 2 Total cubic capacity 110 cu ft Internal diameter 3-6" thickness 1 1/2"
Seamless, lap welded or riveted longitudinal joint D.B. St. Material Steel Range of tensile strength 28/32 Working pressure by Rules 609 lbs.

6800-71M



IS A DONKEY BOILER FITTED? *yes, two.* If so, is a report now forwarded? *yes*

PLANS. Are approved plans forwarded herewith for Shafting *yes* Receivers *yes* Separate Tanks *yes*
Donkey Boilers *yes* General Pumping Arrangements *yes* Oil Fuel Burning Arrangements *yes*

SPARE GEAR 1 piston complete with skirt & rings. 1 cylinder liner complete.
2 Centre connec. rod top end bolts & nuts. 2 ditto bottom end ditto. 2 side cross-head bolts & nuts. 2 side con. rod bottom end ditto. 2 side rod ditto.
2 main bearing studs & nuts. 1 set coupling bolts & nuts for crank shaft 1 set ditto for inter. shaft. 2 spur wheels for cam shaft drive 1 bevel wheel for ditto. 4 Fuel valves complete. 2 H.P. fuel oil bottles.
1 non return starting air valve complete. 1 relief valve complete & 2 cast iron valves for same. 1 scavenge pump delivery valve complete. 1 ditto suction valve complete. 3 piston water service double elbow castings with gland pipe & plug. 3 ditto single elbow ditto. 1 fuel pump body complete with valves. 1 set pads for Mitchell thrust block one side.
1 propeller shaft 1 propeller. See continuation sheet for auxiliaries

The foregoing is a correct description,

For RICHARDSONS, WESTGARTH & Co. LIMITED.

M.S. Dorrings Manufacturer.

LOCAL DIRECTOR.

Dates of Survey while building	During progress of work in shops --	1920: Sep 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 22, 24, 26, 29	During erection on board vessel --	Oct 1, 2, 3, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17, 20, 21, 22, 23, 24, 27, 28, 29, 31
		30, 31, 1921: Jan 6, 7, 9, 15, 16, 17, 20, 21, 22, 26, 27		Feb. 2, 3, 4, 8, 7, 9, 16, 17, 19, 24, 25
		1921: Feb. 23, 25, 27		Mar. 2, 4, 6, 9, 11, 17, 20, 24, 27, 30, 31
	Total No. of visits	115		

Dates of Examination of principal parts—Cylinders 29.5.30-16.12.30 Covers — Pistons 3.7.30-12.12.30 Rods 4.7.30-12.12.30 Connecting rods 3.7.30-13.12.30

Crank shaft 26.9.30-3.11.30 Flywheel shaft and Thrust shaft 10.10.30-10.11.30 Intermediate shafts 29.9.30-16.2.31 Tube shaft ✓

Screw shaft 26.9.30-16.2.31 Propeller 4.12.30-25.2.31 Stern tube 7.10.30-9.2.31 Engine seatings 23 & 27.2.31 Engines holding down bolts 9.3.31-17.3.31

Completion of fitting sea connections *Newcastle* Completion of pumping arrangements 30.3.31. Engines tried under working conditions 28.4.31.

Crank shaft, Material *S.M. Eng. Steel* Identification Mark *4109 H.J.* Flywheel shaft, Material ✓ Identification Mark ✓

Thrust shaft, Material *S.M. 9 Stl.* Identification Mark *8841 J.P.* Intermediate shafts, Material *S.M. 9 Stl.* Identification Marks *4116 R.W.F.*

Tube shaft, Material ✓ Identification Mark ✓ Screw shaft, Material *S.M. 9 Steel* Identification Mark *4116 R.W.F.*

Is the flash point of the oil to be used over 150° F. *yes*

Have the requirements of the Rules for oil fuel pipes and tank fittings been complied with *yes*

Is the vessel (not being an oil tanker) fitted for carrying oil as cargo ✓ If so, have the requirements of the Rules been complied with ✓

Is this machinery duplicate of a previous case *no* If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

This vessel's machinery has been built and installed under Special Survey. The materials and workmanship are good. On completion it was tried under full power at sea with satisfactory results and is now eligible in my opinion to have the notation L.M.C. 4.31.

The amount of Entry Fee ...	£ 6 : 0	When applied for,	1-5-1931
Special ...	£ 109 : 10	When received,	5-5-31
Donkey Boilers Fee ...	£ 23 : 10		
Air receivers	£ 4 : 4		
Travelling Expenses (if any) £			

R.D. Shilston
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 8. MAY 1931*

Assigned *+ L.M.C. 4.31 C.L.*

Oil Eng. 2 D.B. 150 lb.

Certificate (if required) to be sent to
(The Surveyors are requested not to write on or below the space for Committee's Minute.)



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